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Acquisition and Appraisal Department

Properties Division

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COMPUTER APPLICATION TO REAL ESTATE
A CANADIAN UTILITY COMPANY APPLICATION

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SUMMARY

A summary of the level of computer application evidenced by the Real Estate Services Subsection review of 1983/84 and an outline of the B. C. Hydro experience in developing internal land information systems for use at public hearings and for property rights acquisition and management. A key factor is government agency interface.

Keywords: interface, evidential process, data manipulation, SPF, SAS, BCUC, BCAA, line list, data base architecture, automatic updating, route analysis, impact studies

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1. INTRODUCTION

In 1983 and 1984 the Real Estate Services Subsection of the Canadian Electrical Association conducted a review of the level of computer application in those areas of member utilities responsible for property acquisition, valuation and real estate management.

The review identified five major utilities having operating systems, or in the process of designing or developing systems directly related to utility functions (see Appendix V). A synopsis of the findings is given here.

This paper results in part from that previous review but centres on the experience of the British Columbia Hydro and Power Authority (B. C. Hydro).

1.1 Canadian Utilities System Review

- 1.1.1 The Real Estate Services Subsection review of 1983/84 not surprisingly identified major common areas of interest. The reporting utilities indicated similar concerns and problems; anticipated similar benefits from computer assisted means; and identified similar requirements for interface with government agencies.

(a) Concerns and Problems

The increase in size and complexity of the utility systems requires improved control and security.

Public awareness at all levels, (individual, group, political) requires accurate, timely response.

Public awareness has resulted in legislation and regulation requiring rigorous review of proposals.

(b) Perceived Benefits of Automation

Improved data management, security and retrieval through enhancement or elimination of historical manual systems.

Improved credibility through delivery of rapid, reliable, high quality information processing.

Development of analytical processes in the operational and planning environment.

(c) Agency Interface

All utility operations, generation, transmission, distribution depend on a land base and related tenure, whether this be absolute, partial or for a term only.

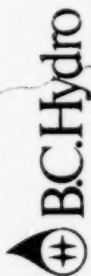
Interface is therefore required with related government agencies covering specific aspects or obligations of ownership ranging from:

- registration of titles in land;
- records of alienation, ownership and charges;
- records of land use, resource data, etc.;
- records of Crown tenures and permits;
- assessment, valuation and taxation.

- 1.1.2 The review identified that in order to meet the concerns noted and achieve maximum benefits that the agency interface was an essential component. Unfortunately investigations have indicated that no single jurisdiction or province had automation of the agency functions developed to a stage enabling full interface capability.

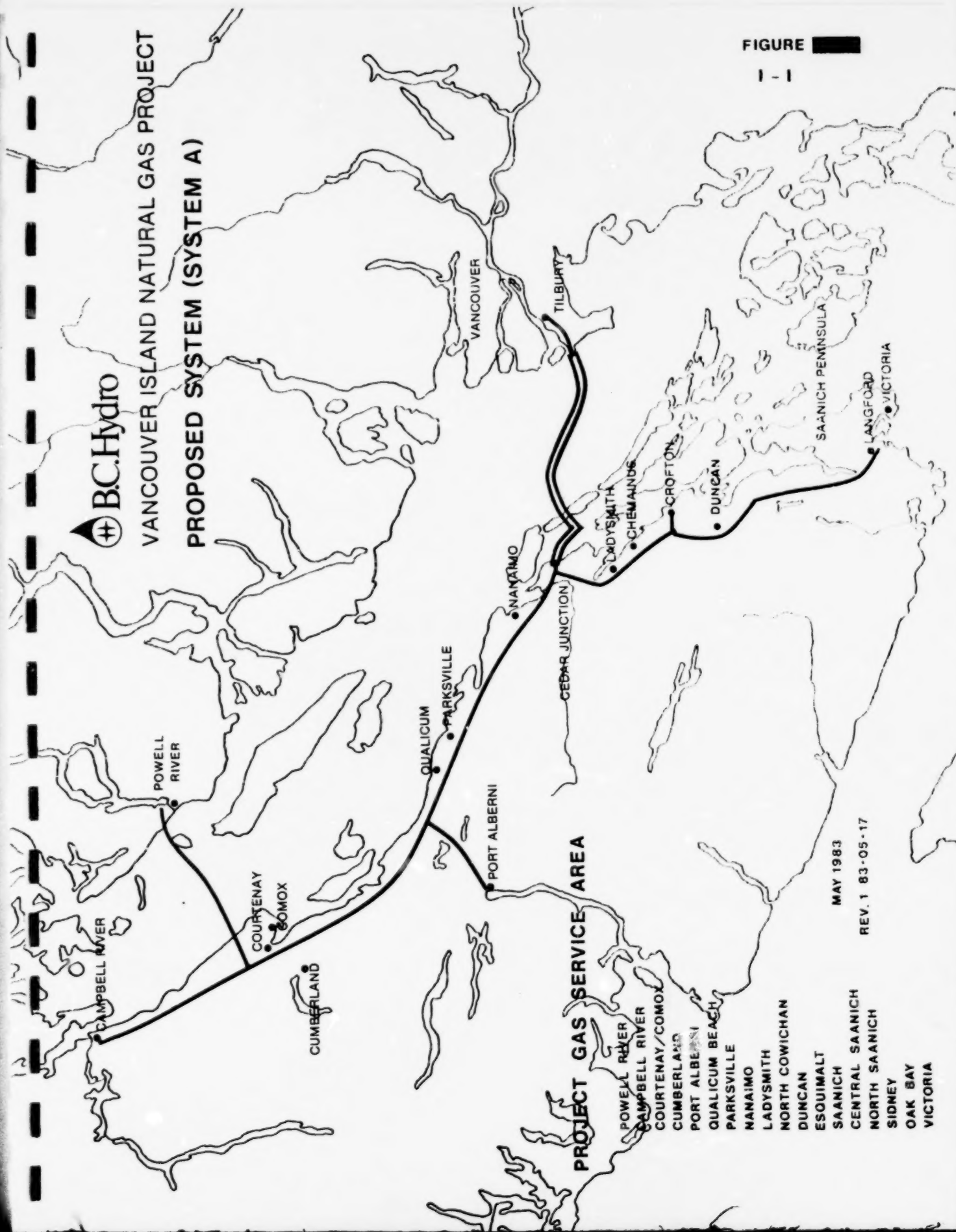
In one province no agency computerization was proceeding. In the four remaining provinces reviewed the level of agency application ranged from single agency computer development only, to a number of agencies in the development phase. Thus no overall report can be given.

The remainder of this paper therefore outlines the B. C. Hydro experience as an example of utilizing automated support in the land function on a major transmission project.



VANCOUVER ISLAND NATURAL GAS PROJECT

PROPOSED SYSTEM (SYSTEM A)



FIGURE

1 - 1

PROJECT GAS SERVICE AREA

- POWELL RIVER
- CAMPBELL RIVER
- COURTENAY/COMOX
- CUMBERLAND
- PORT ALBERNI
- QUALICUM BEACH
- PARKSVILLE
- NANAIMO
- LADYSMITH
- NORTH COWICHAN
- DUNCAN
- ESQUIMALT
- SAANICH
- CENTRAL SAANICH
- NORTH SAANICH
- SIDNEY
- OAK BAY
- VICTORIA

MAY 1983

REV. 1 83-05-17

2. THE B. C. HYDRO EXPERIENCE - OUTLINE

2.1 Basic Corporate Property Functions - Projects

Before describing the project it is pertinent to briefly outline the functions which B. C. Hydro requires of the Properties Division. The outline following is brief of necessity and is not intended to limit the function, but to group tasks only for discussion purposes in this paper. The five basic functions are:

- (a) To conduct studies and provide advice on the land implications of a project, monitoring the location of intended project works for impacts on land use and affected ownership.
- (b) To develop time and cost estimates for project land requirements.
- (c) To provide evidence at board and commission hearings in the public approval process.
- (d) To acquire the land and interests required for the project.
- (e) To manage the rights in property acquired maintaining a reliable secure record of interests.

The five functions outlined include the evidential process, the major change in process and function in the seventies and eighties. In B. C. this occurs in accordance with Utilities Commission Act and requires the utility to obtain an Energy Project Certificate.

The hearings require the presentation of considerable data, and in the example used, a competitive hearing, witnesses were subjected to intense cross-examination with requests for data manipulation. Our ability to respond quickly and consistently was aided materially by the computer applications described.

2.2 Project Scope and Overview

In May 1983, B. C. Hydro made application to the Utilities Commission for an Energy Project Certificate to construct, own and operate a transmission pipeline system from mainland B. C. just south of Vancouver to Vancouver Island.¹

The right of way will consist of 359+ km of transmission pipeline facilities (53 km of dual underwater pipeline and 305.9 km of land pipeline) and 1280+ km of trunk and distribution pipeline on Vancouver Island. (The hearing process did not review the trunk and distribution system.)

The land section will start on the Lower Mainland in Delta and proceed to Brunswick Point. At Brunswick, the marine section starts, crossing Georgia Strait to Valdes Island, across Valdes Island and to Flewett Point on Vancouver Island. The land section then continues to Cedar Junction.

The "On Island" section of the land transmission will transport natural gas from Cedar Junction south to Victoria and north to Campbell River (see map).

2.3 The B. C. Hydro Computer System

B. C. Hydro's computer systems comprise two IBM 3081 Central Processing Units and one IBM 370/168. The older 370/168 is essentially dedicated to jobs submitted in support of the Prof System (a management communication system e.g. word processing, etc.).

¹ This paper discusses a natural gas system as:

- The gas pipeline application and hearing is the most recent B. C. Hydro project reviewed under the process.
- The dissimilarities between a gas and electrical right of way (visual impact excepted) from an acquisition viewpoint are minimal.
- Computer software development and system operations and maintenance are identical.
- The discussion "highlights" an area where liaison between the CEA and CGA is probably advantageous.

The two main processors are dedicated to CICS (Customer Information Control System) Operations and to TSO facility (Time Sharing Operations). Operating within the TSO System we have a whole host of software support applications. The principle support application is SPF (System Productivity Facility). SPF is our main dialogue manager (i.e. controls job submissions, storage and tracking situations). Tied to SPF is a software application package known as SAS (Statistical Analysis System).

2.4 Project Software Selection

In selecting an operating environment a review of competing systems was undertaken, essentially we addressed these questions:

Q Are there extreme time pressures?

A Extreme time pressures were anticipated. Systems can be developed, tested and run (or modified) using SAS in a matter of days or weeks. The time advantage may range as high as 20:1 over conventional methods using PL/I (Programming Language), etc. where pre-written SAS procedures will do the job.

Q Is the problem definition in a working environment under change?

A If the system development is ongoing, then SAS could be appropriate for the system can be modified, redeveloped or thrown out altogether with minimum cost penalties. This was a first application to a linear transmission project. Problem definition would evolve with the project.

Q Personal time versus machine time?

A In many computing environments personal time used by employees is more valuable than computer time used. Since SAS takes advantage of pre-written programs it economizes on development work. In such cases, a programmer can develop a system using SAS quickly, thereby reducing time spent.

Q System life?

A The relative cost of using a conventional language amounts to more than the expense of developing it with SAS since the less development time system enhancements can be introduced in a cost effective manner.

Q Is a SAS expert available?

A SAS is frequently referred to as an "end-users" system, for many statistical analysis and tabulation tasks can be solved directly by end-users who have some knowledge of TSO. This was our situation.

Q Will this system be run daily and with large volumes?

A If the system is to be run often, e.g. 50 times per day), SAS is a poor choice. This is because the generalization in SAS which makes it easy to use in the first place becomes unnecessary once the system requirements have stabilized. Conventional compiled languages like PL/1 and FORTRAN execute more efficiently than SAS.

In summary, we found that SAS is an easy to use system and provides all the necessary tools for data analysis. Furthermore, since it possesses:

- colour graphics;
- mapping facilities for route studies;
- simulation programs for sensitivity analysis;
- critical path method for prioritizing acquisition schemes;

we selected this operating environment.

2.5 Data Sources

The internal sources of data such as engineering route maps, etc. need not be discussed here as they are essentially common to all utilities.

From the Properties perspective it is the outside sources that are now important. And in this instance the primary question concerned agency interfaces. What networks were in place and were accessible?

Specific networks identified were:

- Ministry of the Attorney-General Land Title Branch;
- Ministry of Lands, Parks and Housing;
- B. C. Assessment Authority/Ministry of Finance.

(a) Ministry of the Attorney-General Land Title Branch

The system is known as ALTOS - Automated Land Title Office System. It was not in place at the time of project investigation and although in place now, not all title offices are currently automated and of those that are a full data base is not yet in place.

The system utilizes an IBM mainframe and is thus compatible with the B. C. Hydro hardware. Ultimately it will be the main source of title data.

(b) Ministry of Lands, Parks and Housing

Again, this system was not in place at time of project investigation. Known as CLaRIS (Crown Land Registration Information System) it is a registry or record keeping system for Land Act survey, tenures and related status information, e.g. leases, licences, permits, reserves, etc.

It also utilizes IBM hardware.

(c) B. C. Assessment Authority/Ministry of Finance

Known as CAPAS (Computer Assisted Property Assessment System) this is a comprehensive, current, fully developed and operational data base.

The data base contains information on all alienated and surveyed Crown lands (approximately 1.4×10^6 properties). Given that the other systems are still in their infancy stages, we pursued networking with the B. C. Assessment Authority. After reaching agreement, two modes of access were agreed upon:

- (i) direct access to the files via a B. C. Hydro terminal and hard copy printout on a property specific basis being produced;
- (ii) magnetic tapes containing all real estate in the jurisdictions being studied.

The decision as to which method is employed rests upon the size of the line being studied. Basically if >200 properties, Alternative (ii) is selected.

2.6 Summary of Steps Undertaken

- (a) Determine the optimal BCAA data base accessing method as discussed above.
- (b) Determine the tape format, and how to read and interpret it.
- (c) Obtain and decode the BCAA data, which contained approximately ten master coding indexes within which there were about 1000 individual codes.²
- (d) Transfer selected BCAA data into a carefully chosen software system (SAS) where it could be merged with the existing B. C. Hydro data base (Line ID and parcel number, etc.).

The starting point is obtaining jurisdictional tapes and if required, their monthly updates (new subdivisions/plans, cancellations/ownership changes, etc.). The flow of events is as follows:

- (e) Order the appropriate BCAA jurisdictional tape for the routes being investigated (e.g. City of Vancouver).
- (f) Mount the tape and read it into the B. C. Hydro developed BCAA pure tape screen format (i.e. translate it back into readable format) so that the contents required may be displayed (see Appendix II).
- (g) Select a little used variable with a blank field and remove its protection. This variable will then be used to identify roll numbers on the tape coinciding with line segments and properties under study.³

² The individual codes are numeric and relate to a variety of descriptions, e.g. residential single family vacant. The codes contain details of land use, size, zoning, improvements, age, income, value, etc., besides title data and ownership (see Appendix II).

- (h) Assemble legal maps showing those properties impacted by the route. Take each property in turn and retrieve it by legal description (or parts thereof) from the tape dataset. Assign an appropriate identifier in the field selected in (g) and input any other data such as geographical coordinates or other sort keys.
- (i) Write a sort program for the dataset keying on the identifier entered in the variable selected in (g) to extract the line dataset, containing only properties specifically required.
- (j) Create and add additional variables, as required (e.g. for alternative routes, engineering costs, etc.), i.e. case variables.
- (k) Produce a line list and route analysis.
- (l) Produce a statistical assessment and analysis of the lines. This will, for example, show dollar amounts, number of parcels, ownership status, ALR (Agricultural Land Reserve), land use, etc. Percent use by type can also be shown (see Appendix II).
- (m) Produce and develop BCUC submission reports and supporting evidence, as required.

The methodology reviewed above was found to be cost effective in real estate impact assessment. Our ability to identify and quantify plus select the optimum route(s) was greatly enhanced through obtaining millions of data items and adding our own variables. The resulting statistical summary tables were excellent support documents for presentation to local governments and public hearings.

2.7 The Project Data Base

The Vancouver Island Gas data set contains approximately 1250 properties and materially assisted B. C. Hydro in its presentations before the B. C. Utilities Commission. There

- 3 The BCAA file for the jurisdictions covering the B. C. Hydro route contained some 180,000 properties. The project affected only approximately 1250.

was a need to implement a comprehensive data base containing all the pertinent data which could be retrieved rapidly, updated regularly and adapted quickly to respond to any particular need which might arise from questions generated by the Commission. This task was accomplished by integrating the Properties Division line lists with the B. C. Assessment Authority data base, using SAS. Various statistical reports were produced, and the data base responded to additional requirements such as multiple route analysis, appraisal, information update, acquisition monitoring, and other support functions and allowed for an automated owner contact.⁴

The objective of the system:

- (a) To develop and implement an electronic interface with the BCAA computer system, in addition to a filing, updating and retrieval system containing all properties related to the right of way.
- (b) To monitor ownership changes and subdivision activity affecting properties on the proposed right of way, to identify and avoid situations occurring which may otherwise adversely impact the project design.
- (c) To assist in the preparation of ownership, land use, zoning, summary reports and individual property profile reports. This was accomplished by analyzing the coding of the properties.
- (d) To facilitate a rapid response to inquiries from the general public, government and municipal agencies, and others regarding any particular property vis-a-vis the gas pipeline.
- (e) It was intended that the electronic system should supercede the existing manual management systems by reducing manual work aspects, and in addition increase labour productivity through:

⁴ The hearing process in B. C. requires that all owners of property possibly affected be notified of the fact and of the time and place of the hearings pertinent to their area.

- cross referencing;
- instant data retrieval;
- automatic updating capability;
- early identification of potential problems.⁵

(f) To develop a system and supporting software so that letters and address labels can be produced for each property owner along the gas pipeline right of way to notify as to B. C. Hydro intentions.

2.8 Data Base Architecture

The data base is a twofold structure, allowing for browsing of property information or statistical analysis. All software facilities are in SAS which provides for greater user flexibility.

A second data base has been created which is used solely for letter generation. This subsidiary data base is driven from the main data base and, as a result, is also automatically updated.

The data bases have standardized variable formats consistent with all our other major projects.

Data bases are not static: they constantly change and evolve. The subcomponent data segments must be identified and the data elements must be structured (variable names assigned). At this phase of the operations, we establish the documentation and determine appropriate linkages, (e.g. applicable updating programs in which operating areas will be needing information).

2.8.1 Design Aspects

As discussed earlier SAS was selected as the appropriate software, especially as it is:

- (a) Versatile, i.e. capable of both straight forward reports and complicated statistical analysis.

⁵ This facility has not been implemented for this project as the pipeline is not yet in place. However on the B. C. Lower Mainland Gas Transmission System this has been implemented and will be described in a later section.

- (b) Capable of expansion/modification.
- (c) It can be coupled later with other software more suited to straight forward data retrieval tasks.
- (d) Other Properties project data bases are in SAS and internal staff are trained in this operating environment.

2.8.2 Core and Screens

Essentially the data bases contain two components. The core contains the raw data, and will tend to be more or less uniform across all operational data bases serving a similar function.

These are added onto the core to serve the specialized requirements of different end users as a project and its data base passes through each development phase from initiation to completion and on-going management. While the project files have been primarily concerned with impact analysis and statusing, the system's architecture permits the addition of new variables and creation of new screens for displaying the results (4000 variables can be accommodated).

2.8.3 User Requirements: Highest Order Identification

It follows from the fact the data bases are essential to the work of diverse end users, including forming the basis of the information required for the hearings, that the data base capability will tend to be determined by the highest order user. In most cases, this is the researching and statistical analysis of properties.

It also follows that certain parts of the data base will be surplus to the requirements of lower order users, depending upon their requirements. When lower order users have access to the system, there is a natural tendency to want to remove what is regarded by them as superfluous data, or capability. It is, therefore, very important that control is exercised to prevent such occurrences.

2.8.4 Data Base Protection

The introduction of data base technology brings associated risks which require new controls. These controls should address three areas:

- (a) An increased reliance on electronic data bases results in a potentially larger loss if the data is erroneous.
- (b) Since data is concentrated, it requires more protection and back up.
- (c) Password protection and control over which users can edit specific areas of the data base.

The computer is essentially neutral: it cannot create accurate results from indifferent data.

Furthermore, data base error tends to be cumulative.

2.9 Data Base Elements

The current data base for this project contains over 40 data segments per property record (10 million characters). They range from standard Assessment Authority property attributes (see Appendix I) to unique B. C. Hydro property information. Approximately 1250 parcels are contained in the data base which can be updated on a regular basis through direct tape interface (i.e. with B. C. Assessment Authority data advice tapes) as well as direct terminal entry. The tape was put into a SAS data base.⁶

The Vancouver Island Gas Route traverses a wide variety of land uses. The ±1250 properties which had been identified underwent numerous route alterations (bypassing subdivisions, community wishes, environmental, etc.). The computer assisted route programs supplied Hydro with a BCUC submis-

⁶ BCAA update their data base daily. B. C. Hydro obtains update tapes monthly. Major components of the update of particular value both for a project and for management are changes of ownership, use, subdivision activity, etc.

sion document and the ability to react to a changing situation in an organized and cost efficient manner. As previously noted an owner contact program was also a prerequisite of B. C. Hydro's application to the BCUC.

2.10 Implementation

The following steps must be undertaken in an implementation phase:

(a) Data Base Requirements

The specific needs of each end user must be determined, as the data base will often be used for more than one purpose.

(b) Data Sources and Gathering

Information originating from external sources must be identified and a procedure for obtaining the data must be established. Engineering route maps which are continually being updated, must be passed on to the next phase (e.g. data analysis and loading).

Data from various sources (often incompatible) must be merged together into a common base. The data sources can be summarized as follows:

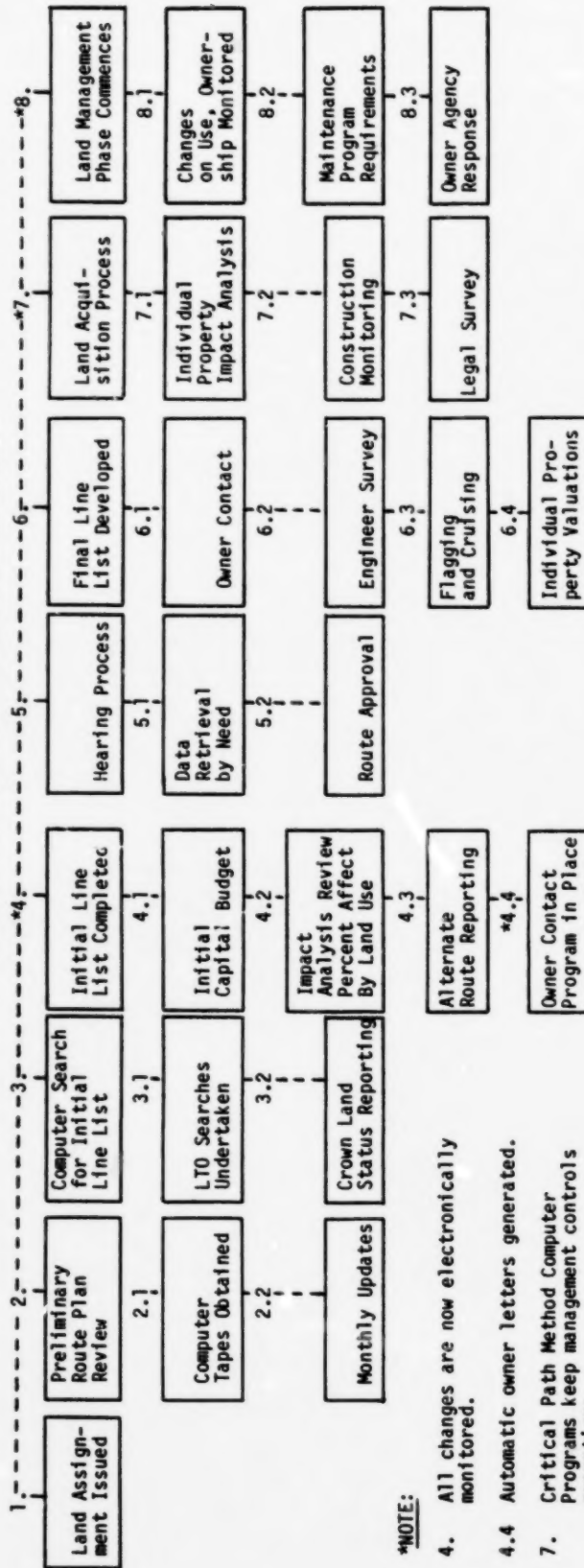
(c) Sources and Users

	<u>Source or User</u>
(i) Route analysis	Engineering
(ii) Property impact studies	BCUC
(iii) Electronic line list	Properties
(iv) Automatic updating	Properties
(v) Property information	BCAA, LTO, MLPH and on-site investigations

As the route was refined, numerous alternative route segments were generated, requiring the development of a multiple route analysis system so that any combination of route alternatives could be analyzed. Acquisition screens were also designed but not implemented (project on hold until Federal/Provincial financing agreement).

The following flowchart of the system shows the various phases envisioned.

2.11 FLOWCHART OF A COMPUTER ASSISTED PROPERTIES SYSTEM



*NOTE:

4. All changes are now electronically monitored.

4.4 Automatic owner letters generated.

7. Critical Path Method Computer Programs keep management controls operative:

- (a) amounts;
- (b) timing;
- (c) identifies changes;
- (d) hold outs;
- (e) acquisitions completed.

8. Data is now electronically transferred to computer assisted management file. Thereafter automatic ownership and subdivision activity reported and Owner Contact Program initiated.

3. THE B. C. HYDRO EXPERIENCE - SUMMARY

3.1 Project Experience

On a linear project of some 350+ kms and 1250+ separate property ownerships a wide variety of circumstances can be expected resulting in numerous iterations to assess route alternatives.

In addition to the ability of the computer as a tool to accommodate storage of data in various alternative modes, the rapid response time available in pure calculation or sorting techniques enabled us to commit to and meet project deadlines with certainty.

From the time when the original routes were analyzed and the initial capital budget was produced, unusual market influences imposed further requirements for analysis. Sales data was analyzed, trends monitored and budget calculations revised accordingly.

The Utilities Commission process and the competitive nature of this project also exerted other influences. Submission dates changed and with them the necessity to update estimates and reports reviewed for correctness not only as to market influence but for changed circumstances.

As a result of the programs established however our witnesses and support staff were able to answer with certainty the questions placed to them, particularly those from council representing competitors/intervenors which latter were often asked or posed in a manner to discredit the witness. If an immediate answer could not be given, a commitment to provide an answer within a short period (say a recess) could be made.

The first phase hearings were completed and B. C. Hydro was the successful applicant. Unfortunately as a result of current political uncertainty on funding the project is on hold.

Items (a), (b) and (c) of the Basic Corporate Functions (2.1) were thus successfully implemented.

Other projects were also identified for similar computer application, one a major hydro generation project, the Keenleyside-Murphy Creek Dam.

Here we examined various full pool levels and different forms of protective or mitigative works. Again there were various iterations, not unlike differences imposed by route alternatives in a linear system. In addition to different levels reviewed, analysis of the effect of "with or without" protective work scenarios in various combinations was possible.

Despite the effect of the economy on load requirements, and the necessary deferral of projects, the Properties function in the project feasibility, design and hearing phases is developed and documented. To date we have relied on the BCAA System interface. We anticipate however that within the next 5 years, interfaces will be available with the ALTOS and Ministry of Lands Records Systems (CLaRIS).

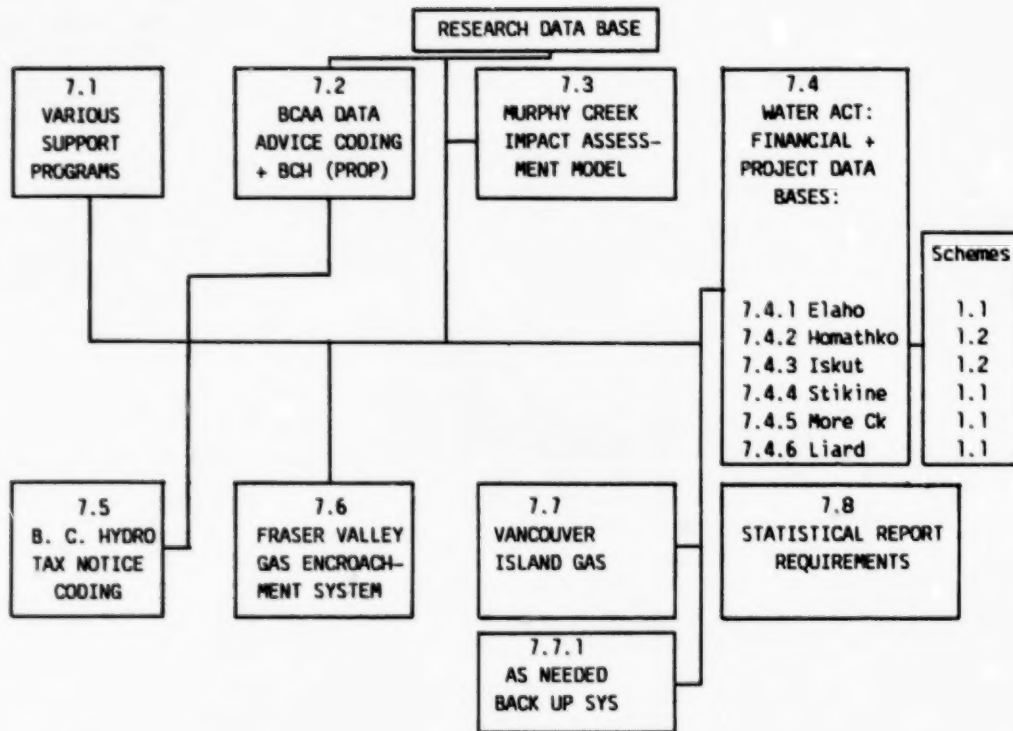
3.2 The Acquisition Phase

To date we have not had opportunity to fully develop and implement an acquisition system. Suffice it to say, the system design contemplates an "aged analysis" ability to measure acquisition progress and provide forewarning of possible problem situations.

3.3 Management Systems

Development efforts are now centering on management of B. C. Hydro rights and interests in land. Two systems are in place:

- The Fraser Valley Gas Transmission System;
- The Property Assessment Review System.



(a) The Fraser Valley Gas Transmission System

The impetus for development here resulted primarily from the major difference between electrical and gas systems, the visibility factor, or rather in the case of a gas pipeline, the lack of visibility.

Major portions of the gas pipeline system were developed 20 - 30 years ago. Since then the Metropolitan Vancouver area has grown with urban communities expanding into previous rural areas. The resulting small lot subdivision has tended to obscure the right of way and a system previously comprising some 850+ parcels now comprises in excess of 2500.

New line lists were created, impacts (encroachment problems) on the right of way were catalogued and a public awareness campaign developed. The system moni-

tors ownership changes and subdivision activity and produces letters and other material pertinent to information requirements of the maintenance and inspection programs.

Some loss of rights were discovered as a result of the program. The updating capability of the new system immediately provides notification of such problems and can assist in preventing or remedying such occurrences through early warning of land use and ownership changes.

The system employs the same basic data base and contains many of the variables that would be developed in the acquisition and preacquisition functions.

(b) The Property Assessment Review System

This system utilizes only BCAA data. It basically compares the previous years assessment data with current data and can be programmed to show percentage variances, changes in use codes and other variables leading firstly to investigation and ultimately to assessment appeal if required.

It has been used for other purposes also. For example, a recent application reviewed improved property values in excess of prescribed amounts for insurance purposes. (B. C. Hydro has in excess of 90,000 rights less than fee simple and $\pm 10,000$ fee simple properties. Our assessed value total is approximately \$8.5 billion and the taxation cost is $\pm \$140$ million per annum.) (See Appendix III.)

4. CONCLUSION

The B. C. Hydro experience to date has shown that the functions applicable to the Properties Division can be enhanced by computer facilities.

Incremental application is accommodated readily by use of the SAS software operating within the TSO facility through SPF. This application meets development of an ongoing nature, typical of major project requirements having extreme time pressures. Once system requirements have stabilized, conventional compiled languages like PL/I and FORTRAN can be readily implemented.

The B. C. Hydro systems have realized the benefits perceived where improved data management enhanced credibility through high quality information processing.

The applications to management systems (limited though they are to date) have improved control and security where in place.

Although B. C. Hydro has relied almost exclusively on one agency system, the Assessment Authority CAPAS facility the additional benefits which can be realized through other agency interface, ALTOS and CLARIS in particular are well recognized. A utility company application relies on public information systems for base data.

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APPENDIX I - CODES (Variables)

1. Tenure
2. Tax Code
3. Sales Type
4. Owner Type
5. Architectural Class
6. Land Use
7. Equity
8. Assessment Jurisdiction
9. Land Use Class

SAS_FMT FOR RESOURCE-LAND
THE FMTLIB PROCEDURE--VERSION 2.0--RICHARD D. LANGSTON

FORMAT NAME: \$TENURE LENGTH: 30 NUMBER OF VALUES: 20		
MIN LENGTH: 4 MAX LENGTH: 40 DEFAULT LENGTH: 30 FUZZ: N/A		
START	END	LABEL
01	01	CROWN-GRANTED
21	21	CERT OF PURCHASE
22	22	PRE-EMPTION REC/HOMESTEAD
23	23	PROV LEASE-AGRIC/GRAZING
24	24	PROV LEASE-FORESHORE
25	25	PROV LEASE-OTHER
30	30	LAND USE PERMIT
31	31	LICENCE TO OCCUPY
32	32	EASEMENT-CROWN
33	33	LETTER OF CONSENT
34	34	RIGHT OF WAY
35	35	SPECIAL USE PERMIT
36	36	PARK USE PERMIT
37	37	LAWFUL OCCUPIERS
41	41	INDIAN RESERVE
42	42	PURCHASE AGREEMENT-VLA
43	43	OTHER FEDERAL LEASES
51	51	IMPROVEMENTS NOT TIED TO LAND
52	52	RAILWAY TRACKAGE, ETC
53	53	UNLAWFUL OCCUPATION

SAS_FMT FOR RESOURCE-LAND
THE FMTLIB PROCEDURE--VERSION 2.0--RICHARD D. LANGSTON

FORMAT NAME: \$TAXCD LENGTH: 40 NUMBER OF VALUES: 59			
MIN LENGTH: 4 MAX LENGTH: 40 DEFAULT LENGTH: 40 FUZZ: N/A			
START	END	LABEL	
100	100	IMR RES-RES ZONED	
102	102	IMR RES--RES ZONED	
104	104	IMR CONL	
105	105	IMR IND-AD VALORUM	
106	106	IMR IND-STATUTORY-RAILROAD	
107	107	IMR IND-STATUTORY-PIPELINE	
108	108	IMR IND-STATUTORY-TELEGRAPH	
110	110	IMR MACH/EQUIP	
112	112	IMR MOBILE HOME	
113	113	IMR RES-ALR	
120	120	IMR FARM-LAND MARKET VAL	
121	121	IMR FARM-LAND/OUT BLDG	
122	122	IMR FARM-RESIDENCE	
123	123	IMR FOREST-LAND	
124	124	IMR TREE FARM-LAND	
125	125	IMR TIMBERLANE-LAND	
126	126	IMR WILD LAND	
127	127	IMR WILD LAND-ALR	
129	129	IMR GOLF COURSE/CEMETERY	
131	131	IMR UTIL-LAND/BLDG	
132	132	IMR UTIL-STRUCT EXCL BLDG	
133	133	IMR UTIL-MACH/EQUIP	
141	141	IMR BCH-LAND/BLDG--ELEC SYS	
142	142	IMR BCH-BLDG-ELEC SYS STN	
144	144	IMR BCH-STRUCT-ELEC/GAS SYS-EXCL ELEC STN	
145	145	IMR BCH-MACH/EQUIP	
146	146	IMR BCH-STATUTORY-RLWY TRACKAGE	
147	147	IMR BCH-STATUTORY-HP GAS PIPELINE	
148	148	IMR BCH-RES-ALR	
151	151	IXMPT FED GOVT-UTIL/ENTPR-PYMT	
152	152	IXMPT FED GOVT-UTIL/ENTPR--PYMT	
153	153	IXMPT FED GOVT--UTIL/ENTPR-PYMT	
154	154	IXMPT FED GOVT--UTIL/ENTPR--PYMT	
155	155	IXMPT FED GOVT-UTIL/ENTPR-ALR GRANT	
156	156	IXMPT FED GOVT--UTIL/ENTPR-ALR GRANT	
159	159	IXMPT FED GOVT--UTIL/ENTPR-MACH/EQUIP	
161	161	IXMPT PROV GOVT-UTIL/ENTPR-PYMT	
162	162	IXMPT PROV GOVT-UTIL/ENTPR--PYMT	
163	163	IXMPT PROV GOVT--UTIL/ENTPR-GRANT	
164	164	IXMPT PROV GOVT--UTIL/ENTPR--GRANT	
165	165	IXMPT PROV GOVT-UTIL/ENTPR-ALR GRANT	
166	166	IXMPT PROV GOVT--UTIL/ENTPR-ALR GRANT	
167	167	IXMPT PROV GOVT--UTIL/ENTPR-MACH/EQUIP	
171	171	IXMPT LOC GOVT-UTIL/ENTPR	
172	172	IXMPT LOC GOVT-SCHOOL BRD	
173	173	IXMPT LOC GOVT-DIST AUTHORITY	
174	174	IXMPT LOC GOVT-TAX SALE PROPERTY	
175	175	IXMPT LOC GOVT-OTHER PROPERTY	

SAS_FMT FOR RESOURCE-LAND
THE FMTLIB PROCEDURE--VERSION 2.0--RICHARD D. LANGSTON

FORMAT NAME: \$SALETYP LENGTH: 38 NUMBER OF VALUES: 9		
MIN LENGTH: 4 MAX LENGTH: 40 DEFAULT LENGTH: 38 FUZZ: N/A		
START	END	LABEL
10	10	SINGLE PROPERTY-IMPROVED CASH TRANS
11	11	SINGLE PROPERTY-IMPROVED -CASH TRANS
12	12	SINGLE PROPERTY-VACANT CASH TRANS
13	13	SINGLE PROPERTY-VACANT -CASH TRANS
14	14	MULTIPLE PROPERTY TRANS
15	15	REJECT-NOT SUITABLE FOR SALES ANALYSIS
16	16	SPECIAL SALE-TEMPORARILLY REJECT
17	17	LEASHOLD-IMPROVED
18	18	LEASHOLD-VACANT

BC HYDRO - INFORMATION CENTER (HO-7 663-2168)

13:58 THURSDAY, MAY 31, 1984

SAS_FMT FOR RESOURCE-LAND
THE FMTLIB PROCEDURE--VERSION 2.0--RICHARD D. LANGSTON

```
*-----*
|  FORMAT NAME: $OWNTYPE  LENGTH: 17  NUMBER OF VALUES: 4  |
|  MIN LENGTH: 4  MAX LENGTH: 40  DEFAULT LENGTH: 17  FUZZ: N/A  |
*-----*
|  START |          END | LABEL |
*-----*
| CR      | CR      | ICR-PROV |
| HY      | HY      | IBC HYDRO |
| LG      | LG      | ILOCAL GOVT |
| PR      | PR      | IPRIVATE |
*-----*
```

SAS_FHT FOR RESOURCE-LAND
THE FHTLIB PROCEDURE--VERSION 2.0--RICHARD D. LANGSTON

FORMAT NAME: 9ARCHCL LENGTH: 40 NUMBER OF VALUES: 455		
MIN LENGTH: 4 MAX LENGTH: 40 DEFAULT LENGTH: 40 FUZZ: N/A		
(CONT'D) START	END	LABEL
1211	1211	ISHED/OUT BLDG-GEN PURPOSE-AVG
1212	1212	ISHED/OUT BLDG-GEN PURPOSE-BETTER
1213	1213	ISHED/FARM SHLTR-IMPLEMENTS-POOR
1214	1214	ISHED/FARM SHLTR-IMPLEMENTS-AVG
1215	1215	ISHED/FARM SHLTR-IMPLEMENTS-BETTER
1216	1216	MILK HOUSE-POOR
1217	1217	MILK HOUSE-BETTER
1218	1218	POULTRY HOUSE-POOR
1219	1219	POULTRY HOUSE-AVG
1220	1220	POULTRY HOUSE-BETTER
1331	1331	ISWIM POOL-POOR
1332	1332	ISWIM POOL-METAL-AVG
1333	1333	ISWIM POOL-CONCRETE-AVG
1334	1334	ISWIM POOL-CONCRETE-GOOD
1401	1401	HOTEL-POOR
1402	1402	HOTEL-AVG
1403	1403	HOTEL-BETTER
1501	1501	ICOML GEN-1 STRY-POOR
1502	1502	ICOML GEN-1 STRY-AVG
1503	1503	ICOML GEN-1 STRY-BETTER
1504	1504	ICOML GEN-2 STRY-POOR
1505	1505	ICOML GEN-2 STRY-AVG
1506	1506	ICOML GEN-2 STRY-BETTER
1507	1507	ICOML GEN-3 STRY-POOR
1508	1508	ICOML GEN-3 STRY-AVG
1509	1509	ICOML GEN-3 STRY-BETTER
1510	1510	IFOOD MAPKET-1 STRY-POOR
1511	1511	IFOOD MARKET-1 STRY-AVG
1512	1512	IFOOD MARKET-1 STRY-BETTER
1514	1514	IDRIVE IN-FOOD/BVG -SMALL
1515	1515	IDRIVE IN-FOOD/BVG -LARGE
1519	1519	IDEPARTMENT STORE
1520	1520	ISHOPPING CENTER
1521	1521	IOFFICE BLDG-1/10 STRY--AC
1524	1524	IOFFICE BLDG-1/10 STRY- AC
1525	1525	IOFFICE BLDG->10 STRY--AC
1528	1528	IOFFICE BLDG->10 STRY- AC
1529	1529	ICOML STRUCT->3 STRY
1532	1532	IHOTEL/MOTEL--BEER PARLOR
1536	1536	IHOTEL/MOTEL- BEER PARLOR
1542	1542	ITHEATRE
1552	1552	IPARKING GARAGE
1582	1582	ILDGE BLDG
1602	1602	IRELOC OFFICE BLDG
1604	1604	IRELOC FIELD OFFICE BLDG
1606	1606	IRELOC FIRST AID BLDG
1608	1608	IRELOC UNHEATED STORAGE BLDG
1620	1620	IRELOC SLEEPING UNIT--WASHROOM

SAS_FMT FOR RESOURCE-LAND
THE FMTLIB PROCEDURE---VERSION 2.0---RICHARD D. LANGSTON

FORMAT NAME: \$LANDUSE LENGTH: 40 NUMBER OF VALUES: 184		
MIN LENGTH: 4 MAX LENGTH: 40 DEFAULT LENGTH: 40 FUZZ: N/A		

START	END	LABEL

H01	H01	CROWN-UNSURVEYED FORESHORE
H02	H02	HIGHWAYS
H03	H03	ROADS
H04	H04	LANES
H05	H05	RAILWAYS
H06	H06	FERRY DOCKS
H07	H07	RIVER-PRIVATE
H08	H08	RIVER-CROWN
H09	H09	CROWN-PROVINCIAL UNSURVEYED
H10	H10	CROWN-FEDERAL UNSURVEYED
H11	H11	CROWN-MUNICIPAL UNSURVEYED
H12	H12	INDIAN RESERVE
H13	H13	CROWN-SURVEYED
H14	H14	CONSTRUCTION AREA
H15	H15	FORESHORE LOT
H99	H99	MISCELLANEOUS/UNCLASSIFIED
I000	I000	RES-SFD
I001	I001	RES<2 ACRE-VAC
I020	I020	RES-OUT BLDG
I030	I030	RES-STRATA_LOT/CONDO
I032	I032	RES-SFD W BSMT SUITE
I033	I033	RES-DUPLEX
I035	I035	RES-DUPLEX-SU OWNER
I037	I037	RES-MOBILE HOME IN PARK
I038	I038	RES-MOBILE HOME -IN PARK
I039	I039	RES-ROW HOUSE-SU OWNER
I040	I040	RES-SEASONAL DWELLING
I042	I042	RES-STRATA_LOT/SEASONAL
I043	I043	RES-PARKING LOT-PAVED/GRAVEL
I050	I050	RES-MFD APARTMENT
I052	I052	RES-MFD GARDEN APART/ROW
I053	I053	RES-MFD CONVERSION
I054	I054	RES-MFD HIGH RISE
I056	I056	RES-MFD RES HOTEL
I060	I060	RES>2 ACRE-SFD/DUPLEX
I061	I061	RES>2 ACRE-SFD/DUPLEX-VAC
I062	I062	RES>2 ACRE-SEASONAL DWELLING
I070	I070	RES>2 ACRE-OUT BLDG
I110	I110	FARM-GRAIN/FORAGE
I111	I111	FARM-GRAIN/FORAGE-VAC
I120	I120	FARM-VEG/TRUCK
I121	I121	FARM-VEG/TRUCK-VAC
I130	I130	FARM-TREE FRUIT
I131	I131	FARM-TREE FRUIT-VAC
I140	I140	FARM-SMALL FRUIT
I141	I141	FARM-SMALL FRUIT-VAC
I150	I150	FARM-BEEF
I151	I151	FARM-BEEF-VAC

SAS_FHT FOR RESOURCE-LAND
THE FHTLIB PROCEDURE--VERSION 2.0--RICHARD D. LANGSTON

FORMAT NAME: \$EQUITY			LENGTH: 36	NUMBER OF VALUES: 18
MIN LENGTH: 4			MAX LENGTH: 40	DEFAULT LENGTH: 36 FUZZ: N/A
START		END	LABEL	
100	100		REG OWNER	
101	101		REG OWNER-UNREG CROWN GRANT HOLDER	
102	102		REG OWNER-REG AGREE FOR SALE GIVEN	
103	103		REG OWNER-UNREG AGREE FOR SALE GIVEN	
104	104		REG OWNER-UNREG DEED GIVEN	
105	105		REG OWNER-LIFE TENANCY GIVEN	
110	110		REG HOLDER OF AGREE FOR SALE	
111	111		UNREG HOLDER OF AGREE FOR SALE	
112	112		UNREG HOLDER OF DEED	
113	113		LIFE TENANT	
114	114		LESSEE OF CROWN-GRANT LAND	
115	115		LAWFUL OCCUPIER OF CROWN-GRANT LAND	
116	116		HOLDER OF MINERAL RIGHTS	
117	117		HOLDER OF IMPROVEMENTS ONLY	
118	118		UNLAWFUL OCCUPIER OF CROWN LAND	
119	119		OTHER EQUITY	
124	124		OCCUPIER OF MUNICIPAL LAND	
199	199		OTHER INTERESTED PARTIES	

SAS_FMT FOR RESOURCE-LAND
THE FMTLIB PROCEDURE--VERSION 2.0--RICHARD D. LANGSTON

	FORMAT NAME: %ASSJURI	LENGTH: 40	NUMBER OF VALUES: 213		
	MIN LENGTH: 4	MAX LENGTH: 40	DEFAULT LENGTH: 40	FUZZ: N/A	

	(CONT'D) START		END		LABEL

701	701	CRANBROOK	RURAL 2201	12	SI
702	702	CRANBROOK	RURAL 2202	12	SI
703	703	CRANBROOK	RURAL 2203	12	SI
704	704	CRANBROOK	RURAL 2204	12	SI
707	707	NELSON	RURAL 2107	06	SI
709	709	ROSSLAND/TRAIL	RURAL 1809	06	SI
710	710	NELSON	RURAL 2110	06	SI
711	711	ROSSLAND/TRAIL	RURAL 1811	16	SI
712	712	ROSSLAND/TRAIL	RURAL 1812	16	SI
713	713	ROSSLAND/TRAIL	RURAL 1813	16	SI
714	714	PENTICTON	RURAL 1714	21	SI
715	715	PENTICTON	RURAL 1715	2107	SI
716	716	PENTICTON	RURAL 1716	21	SI
717	717	PENTICTON	RURAL 1717	21	SI
718	718	CRANBROOK	RURAL 2218	08	SI
719	719	VERNON	RURAL 2019	08	SI
722	722	VERNON	RURAL 2022	19	SI
723	723	KELOHIA	RURAL 1923	07	SI
724	724	KAMLOOPS	RURAL 2324	28	SI
726	726	KAMLOOPS	RURAL 2326	28	SI
727	727	WILLIAMS LAKE	RURAL 2427	2804	CI
728	728	QUESNEL	RURAL 2428	04	CI
729	729	KAMLOOPS	RURAL 2329	26	SI
730	730	KAMLOOPS	RURAL 2330	2804	SI
731	731	KAMLOOPS	RURAL 2331	28	SI
732	732	CHILLIWACK	RURAL 1632	13	FV
733	733	CHILLIWACK	RURAL 1633	13	FV
734	734	NEW WESTMINSTER	RURAL 1534	05	FV
736	736	NEW WESTMINSTER	DIST 1436	15	FV
739	739	NEW WESTMINSTER	RURAL 0939	15	MT
742	742	NEW WESTMINSTER	RURAL 1342	11	FV
743	743	NEW WESTMINSTER	RURAL 1243	15	MT
744	744	NEW WESTMINSTER	RURAL 0344	15	MT
745	745	NEW WESTMINSTER	RURAL 0845	15	MT
746	746	SECHLT	RURAL 0746	2715	MT
747	747	SECHLT	RURAL 0747	23	MT
748	748	NEW WESTMINSTER	RURAL 0848	26	MT
749	749	WILLIAMS LAKE	RURAL 2449	20	CI
750	750	PRINCE RUPERT	RURAL 2550	24	NC
752	752	PRINCE RUPERT	RURAL 2552	24	NC
754	754	SMITHERS	RURAL 2554	02	NC
755	755	SMITHERS	RURAL 2555	02	NC
756	756	PRINCE GEORGE	RURAL 2656	2902	CI
757	757	PRINCE GEORGE	RURAL 2657	14	CI
759	759	PEACE RIVER	RURAL 2759	22	CI
760	760	PEACE RIVER	RURAL 2760	22	CI
761	761	VICTORIA	RURAL 0261	03	VI
762	762	VICTORIA	RURAL 0262	03	VI

SAS_FMT FOR RESOURCE-LAND
THE FMTLIB PROCEDURE--VERSION 2.0--RICHARD D. LANGSTON

FORMAT NAME: \$LANDUCL LENGTH: 16 NUMBER OF VALUES: 15		
MIN LENGTH: 4 MAX LENGTH: 40 DEFAULT LENGTH: 16 FUZZ: N/A		
START	END	LABEL
101	101	CROWN-UNSURVEYED
102	106	TRANS.COMM.UTIL
109	109	CROWN-UNSURVEYED
110	110	MISC/UNCLAS
111	111	CROWN-UNSURVEYED
113	113	MISC/UNCLAS
114	114	MISC/UNCLAS
115	115	MISC/UNCLAS
199	199	MISC/UNCLAS
100	109	RESIDENTIAL
110	119	FARMS
120	129	COMMERCIAL
140	149	INDUSTRIAL
150	159	TRANS.COMM.UTIL
160	169	CIVIC,INST,REC

APPENDIX II - REPORTS
(Samples of Government Submission Support Documentation)

1. Line List
2. Crown, Municipal and Timber Report
3. Land Use and Zoning Report
4. Error Audit Report
5. Data Verification Report
6. Computer Graphic Sample (Fraser Valley Gas)

PROPERTIES DIVISION

P/LNO: C-050 CASE: 1 assured: 760 roll, 00000005-57002
 SEC: 01: bin: pl: lot: township:
 ECRA DOCUMENT NO.: LAND TITLE ECH: 76-004
 LEGAL: SECS 4, 5 & 6 RIFLE RANGE
 SEC 4, R7, MOUNTAIN DIST, PIN 535-R

CROWN - FEDERAL
 NATIONAL DEFENSE DEPT
 TENURE: LAND OCCUPIERS OF OTTAWA DIST
 equity: LAND OCCUPIER OF CROWN-GRAVE
 Tenure: equity:
 Tenure: equity:
 Tenure: equity:

NOTE: OWNERS: 100

VANCOUVER ISLAND GAS TRANSMISSION LINE
RIGHT-OF-WAY LINE LIST: LAID USE & LAND ZONING
CASE 1, 10.11.12.13.14

TABLE OF LANDUSE BY SEG

LAID-USE		SEG											
FREQUENCY		PERCENT											
COL	PCT	AL	IC-C	IC-V	ICL	IRL	IT-C	IT-O	TOTAL				
000	0.00	0.00	15.74	7.74	0.00	0.00	0.32	0	2.65				
000	0.00	40.00	28.00	0.00	0.00	0.00	12.00						
000	0.00	3.04	2.61	0.00	0.00	0.00	3.19						
001	0.00	11.33	3.33	0.00	0.00	0.00	2.21	0	1.69				
001	0.00	1.17	0.32	0.00	0.00	0.00	12.50						
001	0.00	66.75	18.75	0.00	0.00	0.00	2.13						
001	0.00	2.23	1.12	0.00	0.00	0.00							
037	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0	0.11				
037	0.00	100.00	0.00	0.00	0.00	0.00	0.00		0.11				
037	0.00	0.20	0.00	0.00	0.00	0.00	0.00						
038	0.00	9.74	7.74	0.00	0.00	0.00	0.00	0	1.00				
038	0.00	52.94	41.16	5.00	0.00	0.00	0.00						
038	0.00	1.62	2.61	4.00	0.00	0.00	0.00						
040	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0	0.20				
040	0.00	100.00	0.00	0.00	0.00	0.00	0.00						
040	0.00	0.40	0.00	0.00	0.00	0.00	0.00						
060	0.11	10.06	5.72	0.32	0.64	0.74	7	0	16.0				
060	0.60	57.23	32.53	1.61	3.61	4.32			17.50				
060	3.57	19.23	20.15	12.00	17.14	7.45							
061	9.135	54	11	9	8	0	0	0	22.0				
061	0.95	14.30	5.72	1.17	0.95	0.05							
061	3.98	59.73	23.09	4.67	3.98	3.54			23.94				
061	32.14	27.33	20.15	44.00	25.71	8.51							
TOTAL	28	494	268	25	35	94			944				
TOTAL	2.97	26.39	26.39	2.65	3.71	9.96			100.00				

(CONTINUED)

VANCOUVER ISLAND GAS TRANSMISSION LINE
ERROR AUDIT REPORT

12:05 THURSDAY, MAY 2, 1985 2

C-C121	K93787 BECK CONDON H	M28267A	05	769	00000000009300005	BCAA :	LOT 5, DL 35, HAIROUSE DIST, PLAN 2230 LOT 5, DL 35, HAIROUSE DIST, PLAN 2230
C-C122	0196 KASPAR BERNARD & PHILLIS	0196	05	769	00000000009390000	BCAA :	EXCEPT PLANS 0472 AND 1423 R LOT 1, DL 35, HAIROUSE DIST, PLAN 2230 EXCEPT PLANS 0472 AND 1423 R LOT 1, DL 35, HAIROUSE DIST, PLAN
C-C150	4004441 DUM FRANCES E	M91261	05	769	00000000009139000	BCAA :	NORTH 1/2 OF LOT 18 HAIROUSE DISTRICT NORTH 1/2 OF LOT 18 HAIROUSE DISTRICT
C-C161	328954 SHELLY ENTERPRISES LTD	E31034	05	769	00000000012230000	BCAA :	THE W 1/2 OF LOT 42, HAIROUSE (SITUATED IN HAIROUSE DISTRICT) THE W 1/2 OF LOT 42, HAIROUSE DIST, LOT 1, DL 42 & 91, LO 35,
C-C169.03	J90907 MACHILLAN BLUEDEL LTD	J90906	05	769	00000000029019662	BCAA :	LOT 8 DL 65 & 66 HEMCASTLE PLAN 1003
C-C176	162949A PARAVICINE ULTRICO & THERESA	M90122	05	769	00000000011790200	BCAA :	LOT 2, DL 70, HEMCASTLE DISTRICT, PLAN 2062 LOT 2, DL 70, HEMCASTLE DISTRICT, PLAN 2062
C-C183.01	56301-H CROWN - BC	K100806	05	769	00000000012261001	BCAA :	PART ON PLAN RM 514 RM ON BLOCK 232, HEMCASTLE DISTRICT
C-C194	1661144 WALSH JOHN M	01661144	05	769	00000000011503000	BCAA :	EXCEPT NORTH 10 CHNS OF EAST 10 CHNS LOT 7-G, HEMCASTLE DISTRICT EXCEPT NORTH 10 CHNS OF EAST 10 CHNS LOT 7-G, HEMCASTLE DIST
C-C195	1661154 WALSH JOHN M	01661154	05	769	00000000012154500	BCAA :	THAT PART OF LOT 18, DL 81, HEMCASTLE DISTRICT, PLAN 1967, LITING SOUTH OF A BOUNDARY DISTANT 5 THAT PART OF LOT 18, DL 81, HEMCASTLE DISTRICT, PLAN 1967, L
C-C196	1661114 WALSH JOHN M	01661114	05	769	00000000011500000	BCAA :	SEC 1 CAHERON DISTRICT SITUATE IN HEMCASTLE DIST SEC 1 CAHERON DISTRICT SITUATE IN HEMCASTLE DIST
C-C199	972844 BROWN SHERIDAN THE R	0972844	05	769	00000000012164000	BCAA :	LOT 27, DL 81, HEMCASTLE, PLAN 1967 LOT 27, DL 81, HEMCASTLE, PLAN 1967
C-C200	K01806	H10206.1	05	769	00000000012179000	BCAA :	EXCEPT PCL A 0021954 & PLAN 27230 THEREOF

13:27 THURSDAY, JULY 26, 1974 94

RESEARCH AND ANALYSIS SECTION - ACQUISITION DEPARTMENT

VALICOVER ISLAND GAS TRANSMISSION LINE

TITLECURY - CEDAR

PCLOUD-T-C027 CASE:11 AREA:11 JURIS:106 ROLL:000000362100010
BCAA FIXED LEGAL: 101 SEC: 101
LEGAL (ECH): PART OF DL 100 GP 2 SOUTH OF PCL B TIME PL 0317
LEGAL (ECH): 100 EXCEPT PCL 1 PLAN 10003

TURNISHIP: PLAN 0317

OWNERSHIP
CHANGE

NEW SEARCH
ETC

FIRST OWNER (BCAA): FRIESEN J

3240 44 ST
R R 1
DELIA B C

SECOND OWNER (ECAA): B C DEVELOPMENT CORP

WAS: VIC
EQUITY: LANDFUL OCCUPIER OF CROWN-GRANT LAND
272 - 200 GRANNVILLE ST
VALICOVER B C

THIRD OWNER (ECAA):

VACIS
EQUITY: REG OWNER

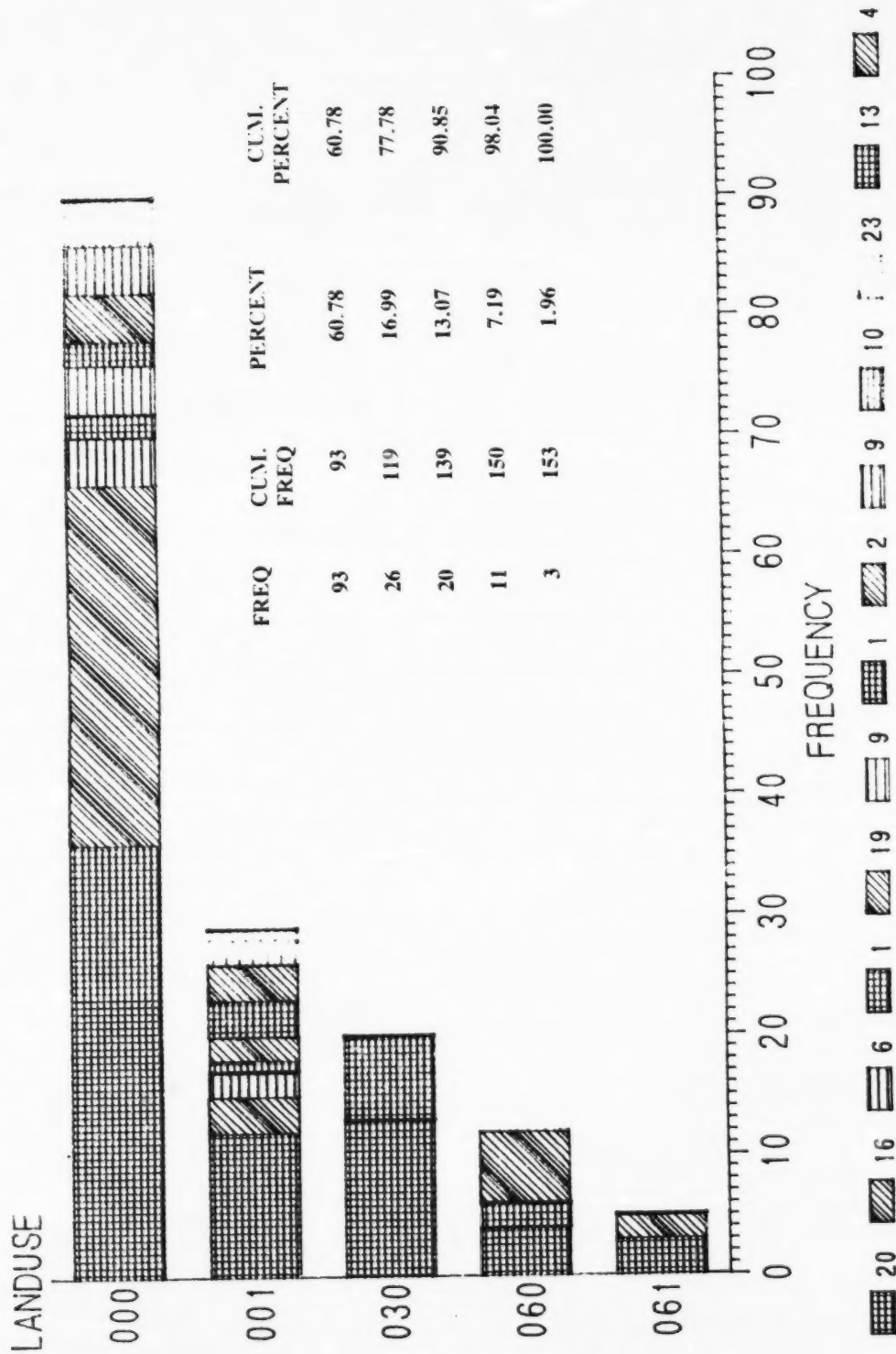
FOURTH OWNER (ECAA):

EQUITY:

TEINRE:

EQUITY:

LANDUSE by encroachment



Encroachment Assessment
Properties Division

APPENDIX III - BCAA DATA SCREENS

H4366R

BC HYDRO PROPERTIES
ZXGRL02: BC ASSESSMENT AUTHORITY DATA

ZXGRL02: BC ASSESSMENT AUTHORITY LAND DATA - PRINT FORMAT

ASSAREA: 01 ASSJURIS: 302 ASSROLL: 311,380,000

(apt) (stno fr-to) (stname)
ADDRPROP: 830 DELANERE
CITY:

REGION: (BC Hydro)

BLOCK: SECTION: 12
LOT: 1 PLANO: 6223

DISTLOT: _____
BLKINOSUB: _____
LOTINOSUB: _____
LOTDIM: 12.86

LOTSZKEY: ACRES
LOTCHAR: _____

LANDZONE: CIVIC-UTIL-PUBLIC
LANDUSE: UTIL-ELECTRIC POWER

ARCHCL: -MANUALIZED STRUCT

More Data & Glossary => PF11

BC HYDRO PROPERTIES
ZXGRL02: BC ASSESSMENT AUTHORITY DATA

ZXGRL01: BC ASSESSMENT AUTHORITY LAND DATA - PRINT FORMAT

** Regional memberships

DISTREG: 03
SCH: 63
LANDCL:
LANDDIST: 65
NBRID: 031
REFFOLIO: -
LANDBRFL: -
ALR: -
SUPPHO: -

MERIDIAN: -
RANGE: 2W
GROUPNO: -
TREEFARM: -
TOIRSHIP: -
PLAIRURA: H
PORTION: -
TAXSUPR: -
ASSSUPR: -

CRSFLG: -
SUPPHO: -
BCTELCO: -
DOCHO: L14250
MAILBLK1: 0067
MAILBLK2: 0067

BC HYDRO PROPERTIES
ZXGRL02: BC ASSESSMENT AUTHORITY DATA

ZXGRL02: BC ASSESSMENT AUTHORITY LAND DATA - PRINT FORMAT
** Legal Data - free format

LEGAL
1. ALSO FROM 1826
2: _____
3: _____
4: _____

LEGALCNT: 0
PLANEXN: _____
PARTHO1: _____
2: _____
3: _____
4: _____
LEGSUBDN: _____

BC HYDRO PROPERTIES
ZXGRL02: BC ASSESSMENT AUTHORITY DATA

ZXGRL02: BC ASSESSMENT AUTHORITY LAND DATA - PRINT FORMAT
** Owner data - 1

OWNER
00: B C HYDRO
1: B C HYDRO
2: _____

ADDR0M
1: ATTN: PLANT ACCOUNTING
2: 970 BURNARD ST
3: VANCOUVER B C
4: _____
5: _____

POSTALC
V6Z1Y3

EQUITY1: REG OWNER
TENURE: CROWN-GRANTED
NOTICE: 01
LANDFILL: _____ ADDRRET: _____ NOTICE1: 0
NAMECNT: 1 ADDR CNT: 3 OWN CNT: 0
MBLREG: _____
MBLBAY: _____ MBLPARK: _____

BC HYDRO PROPERTIES
ZXGRL02: BC ASSESSMENT AUTHORITY DATA

ZXGRL02: BC ASSESSMENT AUTHORITY LAND DATA - PRINT FORMAT
** Owner data - 2

No other data

BC HYDRO PROPERTIES
ZXGRL02: BC ASSESSMENT AUTHORITY DATA

ZXGRL02: BC ASSESSMENT AUTHORITY LAND DATA - PRINT FORMAT
** Free Screen for future data

JURTYPE JURCC		JURTYPE JURCD	
1: -	_____	10: -	_____
2: -	_____	11: -	_____
3: -	_____	12: -	_____
4: -	_____	13: -	_____
5: -	_____	14: -	_____
6: -	_____	15: -	_____
7: -	_____	16: -	_____
8: -	_____	17: -	_____
9: -	_____	18: -	_____

BC HYDRO PROPERTIES
ZXGRL02: BC ASSESSMENT AUTHORITY DATA

ZXGRL02: BC ASSESSMENT AUTHORITY LAND DATA - PRINT FORMAT
** Sales data

no data

BC HYDRO PROPERTIES
ZXGRL02: BC ASSESSMENT AUTHORITY DATA

ZXGRL02: BC ASSESSMENT AUTHORITY LAND DATA - PRINT FORMAT
** Appraised values

BC HYDRO PROPERTIES
ZXGRL02: BC ASSESSMENT AUTHORITY DATA

ZXGRL02: BC ASSESSMENT AUTHORITY LAND DATA - PRINT FORMAT
** Assessed Values

LANDVHG: 328,750
IMPRVHG: 65,000
GRTOH: 393,750
LANDVHE: 328,750
IMPRVHE: 65,000
XHPPTOT: 393,750
LANDVSG: 328,750
IMFRVSG: 65,000
MACHVSG: 279,550
GRTOTS: 673,300
LANDVSE: 0
IMPRVSE: 0
MACHVSE: 50,000
XHPPTOTS: 50,000

PHINFLGS: _

PHINFLGS: _

VALACTCNT: 3

BC HYDRO PROPERTIES
ZXGRL02: BC ASSESSMENT AUTHORITY DATA

ZXGRL02: BC ASSESSMENT AUTHORITY LAND DATA - PRINT FORMAT
** Order in Council Assessments

ASSPCT	LANDVG	IMPRVVG
1:	328,750	65,000
2:	0	279,550
3:	0	19,950
4:	_____	_____
5:	_____	_____
6:	_____	_____
7:	_____	_____

OICCNT: 0

VALTOTAP: 831,050

APPENDIX IV - VANCOUVER ISLAND GAS PIPELINE SCREENS

PROPERTIES DIVISION

***** V GAS DATA *****
 PCLNO: 88010 UPDTBCAA: 840920 ACT: C
 ASSAREA: 15 ASSJURIS: 311 ASSSUBD: 018 ASSROLL: 000000000000000000003795Q0
 FILENO: 467-1000.0(13) FILEPROP: 472-1002.0(4) 224
 * BCH Data
 LEGAL1: L22 NE S4 T11 PL38431 MAPGAS: 1-08
 LEGAL2: ----- BCHMAPNO: ----
 LEGAL3: -----
 LEGAL4: -----
 LEGAL5: -----
 LEGAL6: -----
 COHIBCH: -----
 * BCAA Data
 LOT: 22 BLOCK: _____ SECTION: 4 RANGE: _____ DISTLOT: _____ PLANNO: 38431
 LEGAL11: PART: NE1/4 PID 000-634-689
 LEGAL12: _____
 LEGAL13: _____
 LEGAL21: _____
 LEGAL22: _____
 LEGAL23: _____

PROPERTIES DIVISION

*** VG PROPERTY ATTRIBUTES ***
 PCLNO: 88002
 *BCH Data
 STRH: _____ STDIH: _____ STNAMH: _____ CITH: _____
 *BCAA Data
 STNO: 5281 STDIR: _____ STNAME: 240 ST CITY: 311
 LOTWIDTH: 5. LOTDEPTH: 58 LOTSZKEY: 3
 LANDZONE: 60
 LANDUSE: 060
 ARCHCL: 0080
 LANDVAL: \$ _____ TAXCD1: 13
 IMPRVVAL: \$ _____ TAXCD2: _____
 TOTVAL: \$ _____

PROPERTIES DIVISION

PCLNO: BB002

*** VG REGISTERED INTERESTS ***

*BCH Data

BCH CHARGES	TYPE	PLAN	REG DATE
1: -----	_____	_____	_____
2: -----	_____	_____	_____
3: -----	_____	_____	_____

SRCHOT: _____

LANDTITL: L75506

* BCAA Sale Data

SALEDT	SALETYPE	SALEDOC	SALETIT	SALEAMT
0: _____ 1		_____	L75506	\$ 75,000
1: _____ 5		_____	650194E	\$ _____
2: _____		_____		\$ _____

0=LATEST SALE 2=OLDEST SALE

PROPERTIES DIVISION

PCLNO: BB015

OWN11: LINDBERG WAYNE & MARLENE

21: _____

OWN12: _____

22: _____

OWNADD11: 5543 238 ST

21: -----

OWNADD12: RR 7

22: -----

OWNADD13: LANGLEY B C

23: -----

OWNADD14: _____

24: -----

BCTELNO1: ----- POSTAL1: V3A4R1

BCTELNO2: ----- POSTAL2: _____

*** TENANT11: _____

TENADD11: _____ 12: _____

TENADD13: _____ POSTALT1: _____

*BCAA Data OWNER NAME ADDRESS

11: LINDBERG WAYNE - 11: 5543 238 ST

12: LINDBERG MARLENE - 12: RR 7

TENURE1: 01 - 13: LANGLEY B C

EQUITY1: 00 POSTALC1: V3A4R1

21: _____ 31: _____

22: _____ 32: _____

TENURE2: _____ 33: _____

EQUITY2: _____ POSTALC2: _____

APPENDIX V - LEVEL OF COMPUTER APPLICATIONS - MEMBER UTILITIES

CANADIAN ELECTRICAL ASSOCIATION - RIGHT OF WAY SECTION
REAL ESTATE SERVICES SUBSECTION
LEVEL OF COMPUTER APPLICATIONS - MEMBER UTILITIES

¹ Electrical Authority Name	² Computer Type and System	Present Aspects Covered	³ LEVEL OF COMPUTERIZATION Benefits/Problems	Future Needs and/or Plans
Newfoundland Light and Power Co. Limited	Original IBM - System 3 Present Prime 750	1. Right of Way list for transmission lines including R/W width, voltage, etc. 2. Rural Electrification Program data base of all easements. 3. Survey Programs. Centreline control data applied to check and correct/accuracy. 4. Data Base. Presently stores pole line infor- mation. (Under review for entire plant data base.) 5. Large Development Areas. Plotting of proposed powerplants and watersheds. 6. Financial Analysis (Autolab). Financial modelling and economic analysis.	B1 Immediate update and ease of access. B2 Ease of search and data retrieval. B3 Rapid check and accuracy in results. B4 Speed of access to all plant records. B5 Convenient, accurate plotting of contours and land relief. B6 Enables analysis of numerous alternative plans and sequences in least time.	1. Data base. Expansion of data base system to cover all plant for accurate and fast access to records. 2. Survey Program. Addition to present program to record T/L survey data electronically in the field with automatic com- puter calculation of plot.

Agency Name	4 AGENCY INTERFACE Aspects Covered		Reason	Operative (O) Desired (D)		Time Frame	5 Industry Interface
	1.	2.		0	D		
1. Crown Lands Control Surveys.	1. Approved survey programs.	1. Survey adjustment and accuracy.	1. Survey adjustment and accuracy.	0			Interface with the real estate and related industry would be desirable if available to secure value information for appraisal purposes.
2. Mapping and Resource Section.	2. Digitized mapping.	2. Update property atlases and stream line programs.	2. Update property atlases and stream line programs.	D		Unknown	
3. Registry of Crown Grants.	3. All Crown land trans-actions.	3. Significant time saved in searches.	3. Significant time saved in searches.	D		Unknown	
4. Registry of Deeds and Conveyances.	4. All alienated land transactions.	4. Significant time saved in searches.	4. Significant time saved in searches.	D		Unknown	

1 Electrical Authority Name	2 Computer Type and System	3 LEVEL OF COMPUTERIZATION		
		Present Aspects Covered	Benefits/Problems	Future Needs and/or Plans
Saskatchewan Power Corporation	No current applica- tions.	No current applications.	Benefits anticipated: B1 Reduce costs. Eliminate duplicate and highly inefficient manual system.	Land Records Management System. To replace individual file system and other manual systems in functional areas. To provide an integrated system with a single data base having on-line access to functional areas. Design to limit data base changes to maintain security.
			B2 Improve productivity (staff time and retrieval time).	
			B3 Improve lease management procedures.	
			B4 Improve response time to public enquiries.	
			B5 Improve asset accounting and audit procedures.	
			B6 Improve control and security of information.	
			B7 Reduce space for storage.	
			*p Human Resources	

Agency Name	4 AGENCY INTERFACE Aspects Covered		5 Industry Interface	
	Reason	Operative (O) Desired (D)	Time Frame	
1. Central Survey and Mapping Agency.	1. Common land information system including assessment, titles, land use, agricultural and environmental monitoring.	D	Imminent	
2. Land Titles.	2. Land transaction data.	D	5 Years	
3. Provincial Energy	3. Energy project and Mines.	D	5 Years monitoring.	

1 Electrical Authority Name	2 Computer Type and System	3 LEVEL OF COMPUTERIZATION Benefits/Problems	Present Aspects Covered	Future Needs and/or Plans
Ontario Hydro			1. Roll Plan Index. Data base incorporating line section, name, length, kv, plan number, sequence, jurisdiction, etc. 2. Property Rights Transactions, Data Base - corporate owned lands, sales, easements (R/W), land management, leases, licences, orders in council, etc.	1. Assessment and taxation data base. 2. Further property management systems to include housing assistance program.
			B1 Cost Savings-direct access to data. Able to handle large volume of enquiries for manual map/plan retrieval. B2 Data organization and rapid retrieval and response/reporting. Able to handle large volume of enquiries for property information in short time. B3 Credibility based on fast, reliable and high quality information.	3. Mapping information management system - to record property rights, i.e. fee, limited int. land management etc. on computer in drawing format. 4. Project Management (project specific) - budget, schedule of activity, etc.
			3. Appraisal/Compensation. 4. Forest Inventory. 5. Agricultural Compensation - structures.	B4 Timeliness. B5 Accuracy. B6 Credibility.

Ontario Hydro Cont'd

Agency Name	4 AGENCY/ INTERFACE Aspects Covered	Reason	5 Industry Interface	
			Operative (O) Desired (D)	Time Frame
1. Ontario Ministry of Revenue.	1. Assessment and taxation functions.	1. Taxation and valuation data.	D	Unknown
2. Ministry of Consumer and Corporate Relations (Polaris Program)	2. Land registry functions.	2. Search of titles.	D	Unknown
3. Ministry of Revenue.	3. Ownership records and property value data.	3. Largest single property data base.	D	Unknown
4. Ministry of Revenue.	4. Land transactions/ assessment.	4. Significant time savings in search procedures.	D	Unknown
5. BOECKHS Manuals.	5. Costing improvements.	5. Information for planned projects.	D	Unknown

¹ Electrical Authority Name	² Computer Type and System	³ LEVEL OF COMPUTERIZATION Benefits/Problems	Present Aspects Covered	Future Needs and/or Plans
Hydro Quebec		³ B1 Timeliness. B2 Accuracy. B3 Credibility.	1. Appraisal/Compensation. 2. Forest Inventory. 3. Agricultural Compensation - structures. 4. Title Records. 5. Project Realization - follow-up. 6. Processing data in communications.	1. Project Management (project specific) - budget, schedule of activity, etc.
⁴ Agency Name	⁴ AGENCY INTERFACE Aspects Covered	Reason	Operative (O) Desired (D)	⁵ Industry Interface
1. Title Registry Offices.	1. Record of land transactions.	1. Significant time savings in search procedures.	D	Unknown No review of this aspect has been carried out.
2. Municipalities.	2. Land use, assessment, zoning, etc.	2. Information for planned projects.	D	Unknown

1 Electrical Authority Name	2 Computer Type and System	Present Aspects Covered	3 LEVEL OF COMPUTERIZATION Benefits/Problems	Future Needs and/or Plans
B. C. Hydro	Mainframe IBM 3081 Terminals IBM 3270 IBM 3279	1. Transmission Line R/W - Line List (New Projects).	B1 Provides a list of rapid update accommodating various changes in use, route changes, budget predictions, etc.	1. Fee property records.
	ISPF Computer System in conjunction with SAS language.	2. Generation (Hydro) Projects. Property Lists (Line Lists).	B2 Similar to B1.	2. Transmission Line R/W - line list (existing projects).
		3. Impact Analysis (Pilot) B3 (a) existing rights of way; (b) proposed line monitoring.	(a) provides a basis for compensation practice measured under control; (b) enables prior impact of proposals to be measured.	3. Project line list control (an ongoing review and audit for scheduling, budget and security control).
		4. Right of Way encroachment analysis and monitoring.	B4 Provides an analysis of encroachments, a means of identifying future problem areas and a property owner information capability.	
		5. Water Licence Fees.	B5 Enables production of various licence scenarios primarily for budget and rate prediction.	

*p Human Resources

B. C. Hydro Cont'd

Agency Name	4 AGENCY INTERFACE Aspects Covered	Reason	5 Industry Interface	
			Operative (O) Desired (D)	Time Frame
1. B. C. Assessment Authority.	1. Identifies alienated lands by title, folio, Ministry of Lands/Forests file number, region and jurisdiction.	1. Land sales, ownership, use, zoning, improvement data available.	Partial 0	1 Year
2. Land Titles Office.	2. Record of alienated lands, ownership and changes.	2. Ownership and changes. Significant search time savings.	D	5 Years
3. Ministry of Lands, Parks and Housing.	3. Crown land status and lease and licence terms. Reserved and proposed uses.	3. Significant land status search time savings.	D	5 Years
4. Ministry of Forests.	4. Forest use status, planning and access.	4. Significant status search time savings.	0	
5. Ministry of Energy, Mines and Petroleum Resources (and branches).	5. Energy resource records and planning.	5. Route planning environmental and economic assessment.	0	

* p Human Resources - Three utilities expressed problems in this area, basically inevitable delays in getting a large, integrated system planned and designed with the huge volume of material requiring input in conversion.

** B. C. Hydro presently has a "read-only" interface with the B. C. Assessment Authority computer facility. The aim and plan is a two-way "on-line" system enabling a review of changes in ownership, subdivision activity and other changes affecting Hydro rights.